

LOISDALE BUSINESS CENTER

GENERALIZED DEVELOPMENT PLAN/ PROFFER CONDITION AMENDMENT

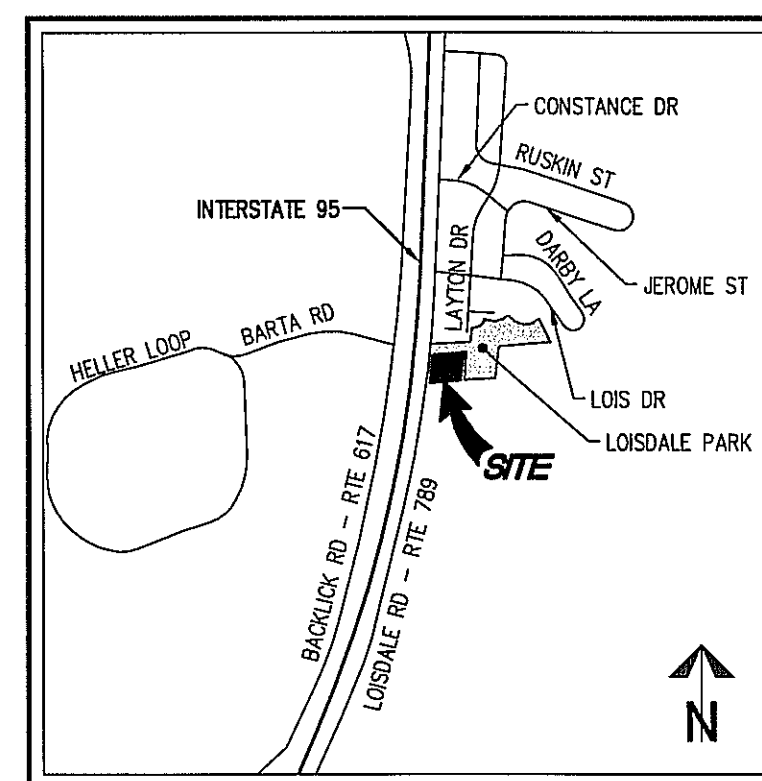
FAIRFAX COUNTY, VIRGINIA

NOTES

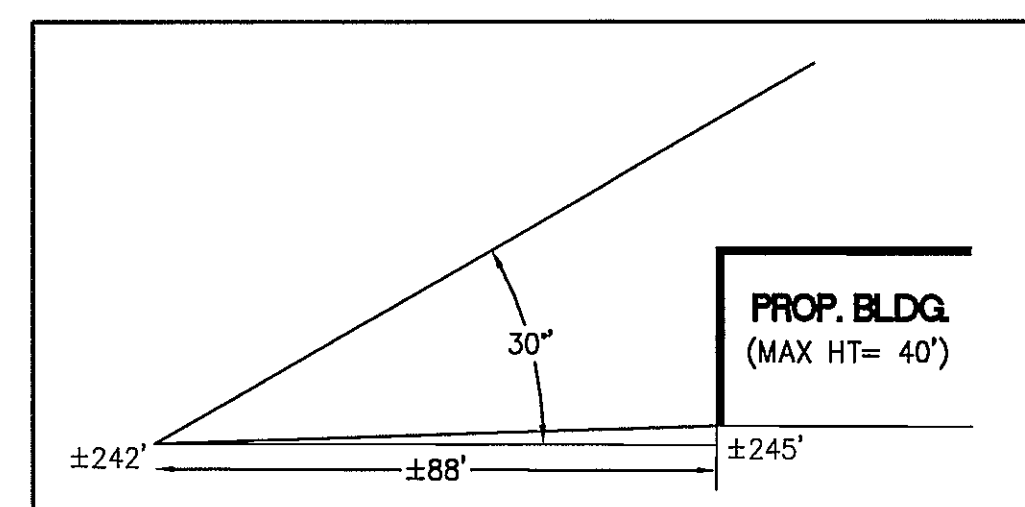
- OWNER/APPLICANT:
MR. DAVID TRACY
LOISDALE ROAD, LLC
5252 CHEROKEE AVENUE, SUITE 302
ALEXANDRIA, VIRGINIA 22312
- THIS PROPERTY IS LOCATED ON FAIRFAX COUNTY TAX MAP #90-4-01, PARCEL 3.
- THE PROPERTY IS CURRENTLY ZONED C-2, LIMITED OFFICE.
- THE EXISTING CONDITIONS, BOUNDARY, AND TOPOGRAPHIC INFORMATION WAS TAKEN FROM A FIELD RUN SURVEY BY THIS FIRM, DATED OCTOBER 12, 2007. CONTOUR INTERVAL IS TWO (2) FEET.
- THE PROPERTY IS SERVED BY PUBLIC WATER AND SEWER.
- TO THE BEST OF OUR KNOWLEDGE, ALL UTILITY EASEMENTS HAVING A WIDTH OF 25 FEET OR MORE ARE SHOWN.
- AN OUTDOOR PATIO AREA IS PROPOSED ON-SITE AND IS A SPECIAL AMENITY. APPLICANT MAY RELOCATE OUTDOOR PATIO TO THE ROOF OF BUILDING IN ACCORDANCE WITH PROFFERS.
- TO THE BEST OF OUR KNOWLEDGE, THERE ARE NO GRAVES LOCATED ON THE SITE.
- THIS WILL CERTIFY THAT A REVIEW OF THE FEDERAL EMERGENCY MANAGEMENT AGENCY'S FLOOD INSURANCE RATE MAP FOR FAIRFAX COUNTY, VIRGINIA, COMMUNITY-PANEL NUMBER 515525 0150 D, EFFECTIVE MARCH 5, 1990, DESIGNATES THE PROPERTY AS BEING IN ZONE "X". AREAS DETERMINED TO BE OUTSIDE THE 500-YEAR FLOODPLAIN.
- ACCORDING TO FAIRFAX COUNTY MAPPING, THIS SITE DOES NOT LIE WITHIN A RESOURCE PROTECTION AREA (RPA).
- TO THE BEST OF OUR KNOWLEDGE, THERE ARE NO HAZARDOUS OR TOXIC SUBSTANCES ON-SITE.
- THE PROPOSED DEVELOPMENT CONFORMS TO THE ADOPTED FAIRFAX COUNTY COMPREHENSIVE PLAN, EXCEPT AS NOTED IN THE WAIVERS/MODIFICATIONS SECTION ON THIS SHEET.
- THE PROPOSED DEVELOPMENT CONFORMS TO THE PROVISIONS OF ALL APPLICABLE ORDINANCES, REGULATIONS, AND ADOPTED STANDARDS.
- ALL PROPOSED SIGNS WILL BE IN ACCORDANCE WITH THE PROFFERS AND ARTICLE 12 OF THE FAIRFAX COUNTY ZONING ORDINANCE.
- THERE ARE NO PROPOSED PUBLIC OR COMMUNITY FACILITIES ON-SITE.
- IT IS ANTICIPATED THAT CONSTRUCTION SHALL COMMENCE UPON APPROVAL OF THE SITE PLAN.
- EXTENSION OF THE EXISTING PUBLIC WATER AND SANITARY SEWER TO THE SITE ARE PROPOSED AND WILL BE CONSTRUCTED CONCURRENT WITH SITE DEVELOPMENT.
- THERE ARE NO SCENIC ASSETS TO BE PRESERVED ON-SITE.
- THE SITE IS SURROUNDED BY AN EXISTING PARK TO THE NORTH AND EAST AND A SIMILARLY ZONED PROPERTY TO THE SOUTH. EXISTING VEGETATION WILL BE PRESERVED AND SUPPLEMENTED WITH PROPOSED VEGETATION TO MINIMIZE THE IMPACT OF THE DEVELOPMENT.
- THERE ARE NO EXISTING STRUCTURES LOCATED ON THE SITE.
- THE APPLICANT MAY PROVIDE PARKING IN ACCORDANCE WITH MINIMUM REQUIREMENTS IN ZONING ORDINANCE PER PROFFERS.

SHEET INDEX

- COVER SHEET
- EXISTING CONDITIONS EXHIBIT/EXISTING VEGETATION MAP
- GENERALIZED DEVELOPMENT PLAN/PROFFER CONDITION AMENDMENT
- CONCEPTUAL LANDSCAPE PLAN
- GRADING PLAN EXHIBIT
- LOISDALE ROAD - SIGHT DISTANCE PROFILE
- PRELIMINARY SWM/BMP COMPUTATIONS & OUTFALL ANALYSIS
- PROPOSED TRENCH COMPUTATIONS & CALCULATIONS
- CROSS-SECTION/DETAILS EXHIBIT (FOR ILLUSTRATIVE PURPOSES ONLY)
- ARCHITECTURAL ELEVATIONS



VICINITY MAP SCALE: 1"=2000'



30° A.B.P. DETAIL
(SCALE: 1"= 30')

ZONING TABULATION

EXISTING ZONE: C-2, LIMITED OFFICE
SITE AREA: ±118,953 SF OR ±2.7308 AC

	REQUIRED	PROVIDED
MIN. LOT AREA:	20,000 SF	±118,953 SF/±2.7308 AC
MIN. LOT WIDTH:	100 FT	±346 FT
MAX. BLD. HT:	40 FT	40 FT
MIN. YARD REQUIREMENTS:		
FRONT	30'; BUT NOT LESS THAN 25 FT	±88 FT
SIDE	NONE	N/A
REAR	25 FT	±111 FT
MAX. FAR:	0.50	0.50
OPEN SPACE:	30%	40%

PARKING TABULATION

REQUIRED

USE: OFFICE

RATE: 3 SPACES/1,000 SF OF GFA
[±59,476 SF OF GFA/1,000 X 3]
[±5,750 SF OF GFA/1,000 X 3 (CELLAR)]

TOTAL REQUIRED = 196 SPACES

PROVIDED

SURFACE PARKING = ±22 SPACES (INCL. 3 HC)

GARAGE PARKING:

P1 = ±87 SPACES (INCL. 2 HC)

P2 = ±87 SPACES (INCL. 2 HC)

TOTAL = ±196 SPACES (INCL. 7 HC)

LOADING SPACES REQUIRED = 4

LOADING SPACES PROVIDED = 1*

*SEE WAIVERS/MODIFICATIONS

WAIVERS/MODIFICATIONS

- A MODIFICATION OF THE LOADING SPACE REQUIREMENTS TO ALLOW 1 SPACE IN LIEU OF THE 4 SPACES REQUIRED.

Application No PCA 80-L-004 Staff KGS
APPROVED DEVELOPMENT PLAN
(DP) (GDP) (CDP) (FDP)
SEE PROFFERS DATED 4-22-2009
Date of PC approval 3-18-2009
Date of BOS approval 4-27-2009
Sheet 1 of 10

RECEIVED
Department of Planning & Zoning
MAR 03 2009
Zoning Evaluation Division

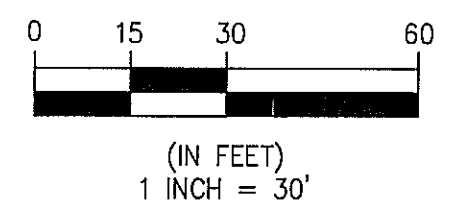
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INCORPORATED

CIVIL ENGINEERS LAND SURVEYORS PLANNERS LANDSCAPE ARCHITECTS
207 PARK AVENUE FALLS CHURCH, VIRGINIA 22046
(703) 532-6163 FAX (703) 538-1801
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REVISION APPROVED BY		DATE
NO.	DESCRIPTION	DATE
1	10/22/08	8/7/08
2	10/22/08	10/22/08
3	11/24/08	11/24/08
4	12/15/08	12/15/08
5	1/8/09	1/8/09

COVER SHEET
LOISDALE BUSINESS CENTER
LEE DISTRICT
FAIRFAX COUNTY, VIRGINIA



CURVE TABLE						
CURVE	RADIUS	LENGTH	DELTA	TANGENT	CHORD	CHORD BEARING
C1	16580.22'	346.47'	111°50"	173.24'	346.47'	N06°29'34"E

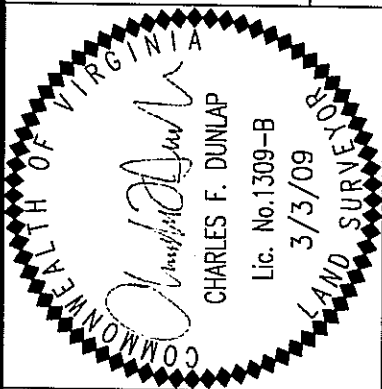


EXISTING VEGETATION MAP INFORMATION						
KEY	COVER TYPE	PRIMARY SPECIES	SUCCESIONAL STAGE	CONDITION	ACREAGE	COMMENTS
A	UPLAND FOREST	MAPLE, OAK, PINE	LONG-TERM SUB-CLIMAX	FAIR	72,100 SF OR 1.6552 AC	
B	OPEN FIELD	N/A	N/A	N/A	46,853 SF OR 1.0756 AC	
TOTAL SITE AREA:					±118,953 SF OR ±2.7308 AC	

Application No. PCA - 801-004 Staff KCS
APPROVED DEVELOPMENT PLAN
(DP) (CDP) (CDP) (EDP)
SEE PROCEEDERS DATED 4-22-2009
Date of (CC) Approval 3-16-2009
Date of (OS) Approval 4-27-2009

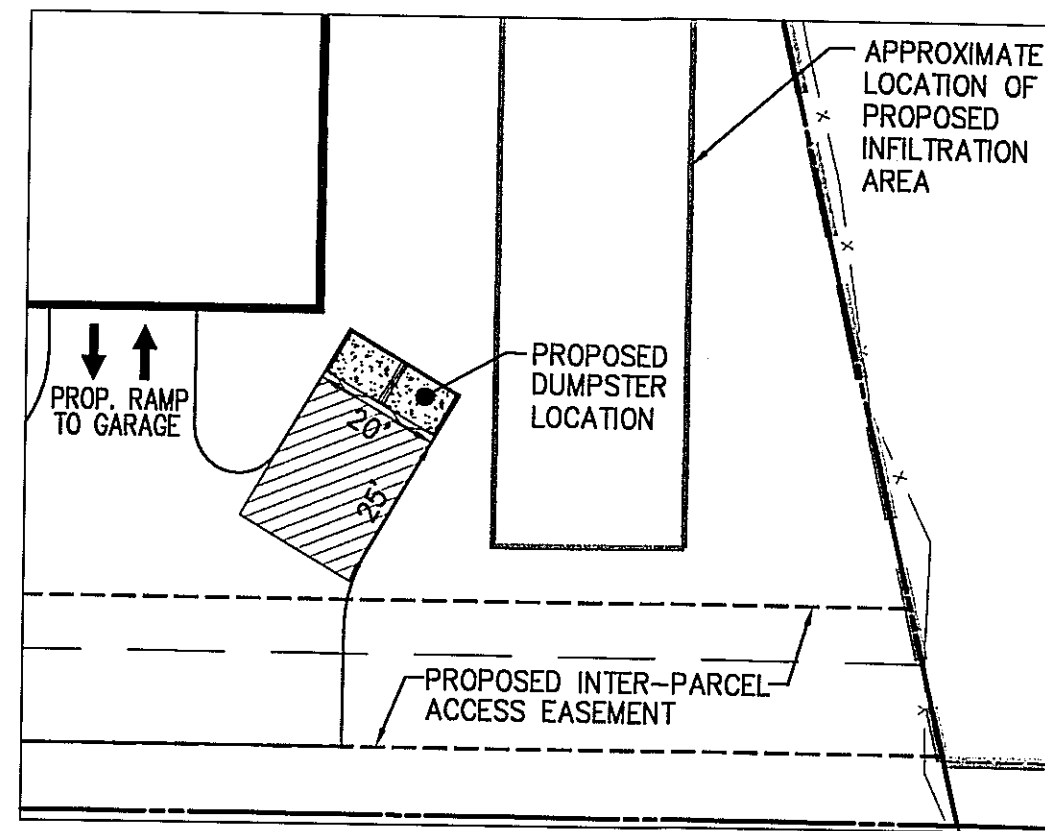
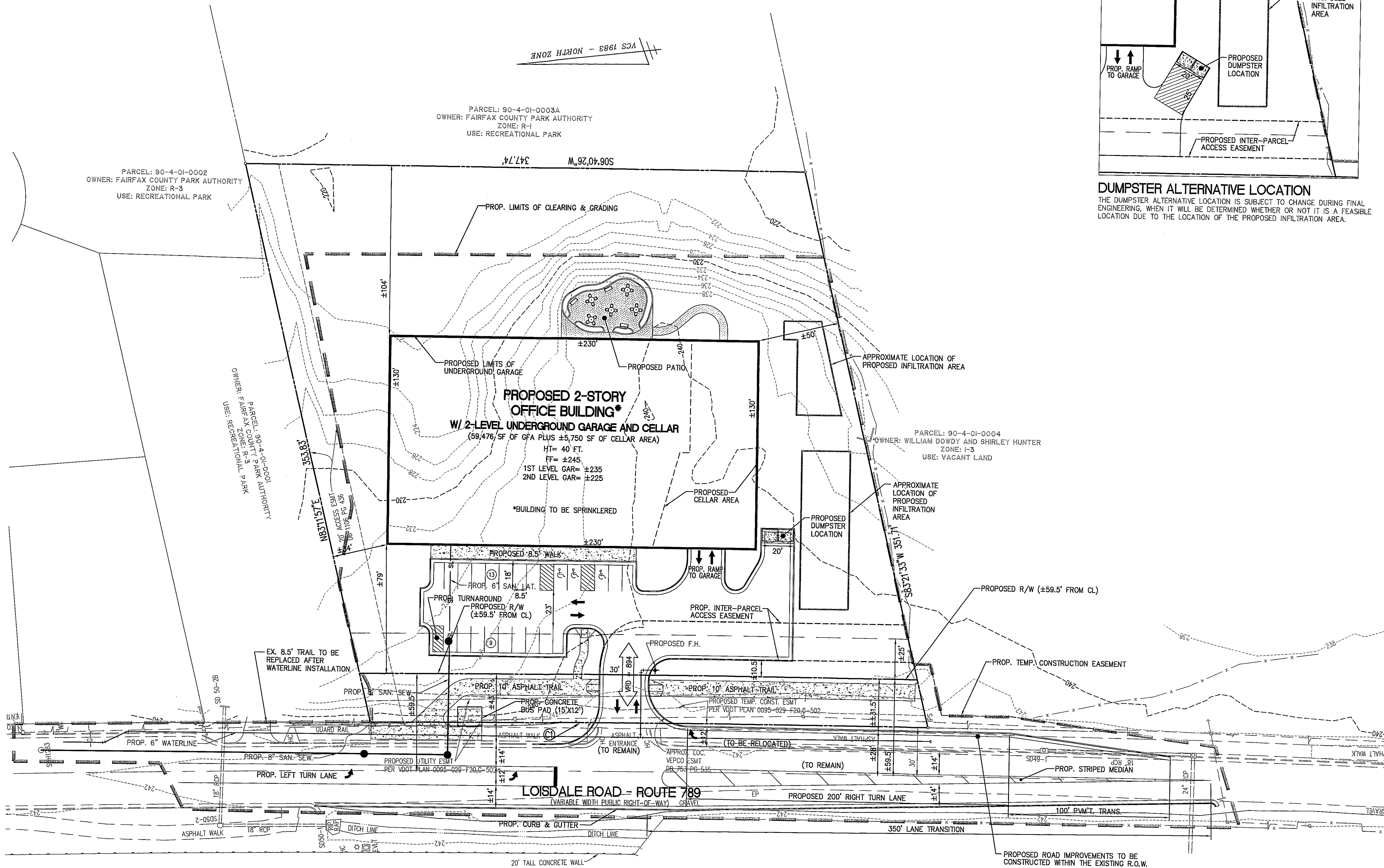
EXISTING CONDITIONS/EXISTING VEGETATION MAP

LOISDALE BUSINESS CENTER
LEE DISTRICT
FAIRFAX COUNTY, VIRGINIA

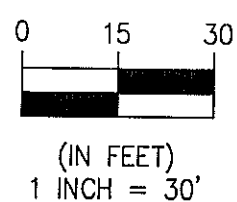


REVISION APPROVED BY				
NO.	DESCRIPTION	DATE	REV. BY	DATE
1	DPT REVS.	8/7/08		
2	DPT/CDP REVS.	10/23/08		
3	DPT REVS.	11/24/08		
4	DPT REVS.	12/19/08		
5	DPT REVS.	1/8/09		

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DUMPSTER ALTERNATIVE LOCATION
THE DUMPSTER ALTERNATIVE LOCATION IS SUBJECT TO CHANGE DURING FINAL ENGINEERING, WHEN IT WILL BE DETERMINED WHETHER OR NOT IT IS A FEASIBLE LOCATION DUE TO THE LOCATION OF THE PROPOSED INFILTRATION AREA.



CURVE TABLE						
CURVE	RADIUS	LENGTH	DELTA	TANGENT	CHORD	CHORD BEARING
C1	15,580.22'	346.30'	111°48'	173.16'	346.30'	N06°22'15"E

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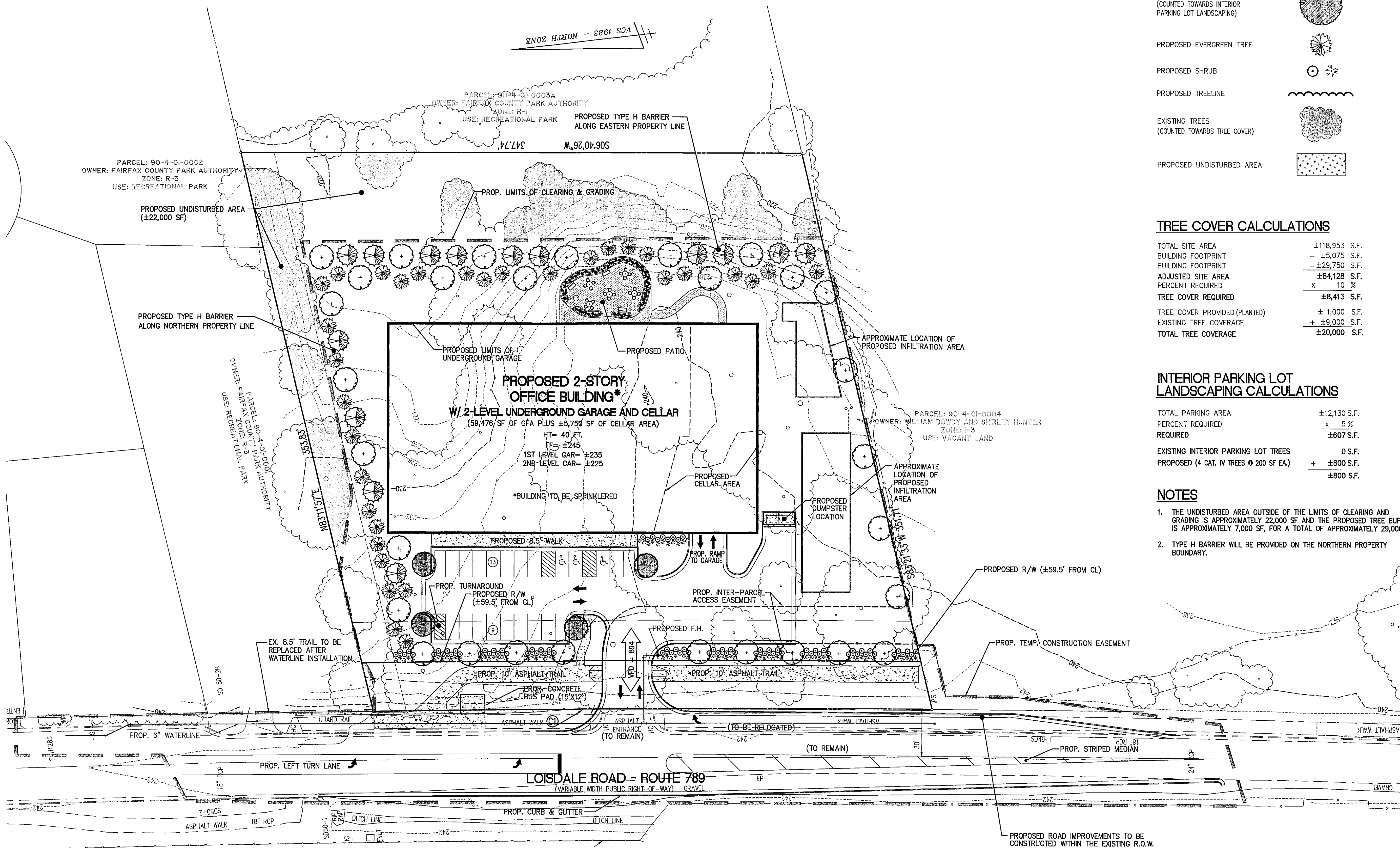
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LOISDALE BUSINESS CENTER
LEE DISTRICT
FAIRFAX COUNTY, VIRGINIA

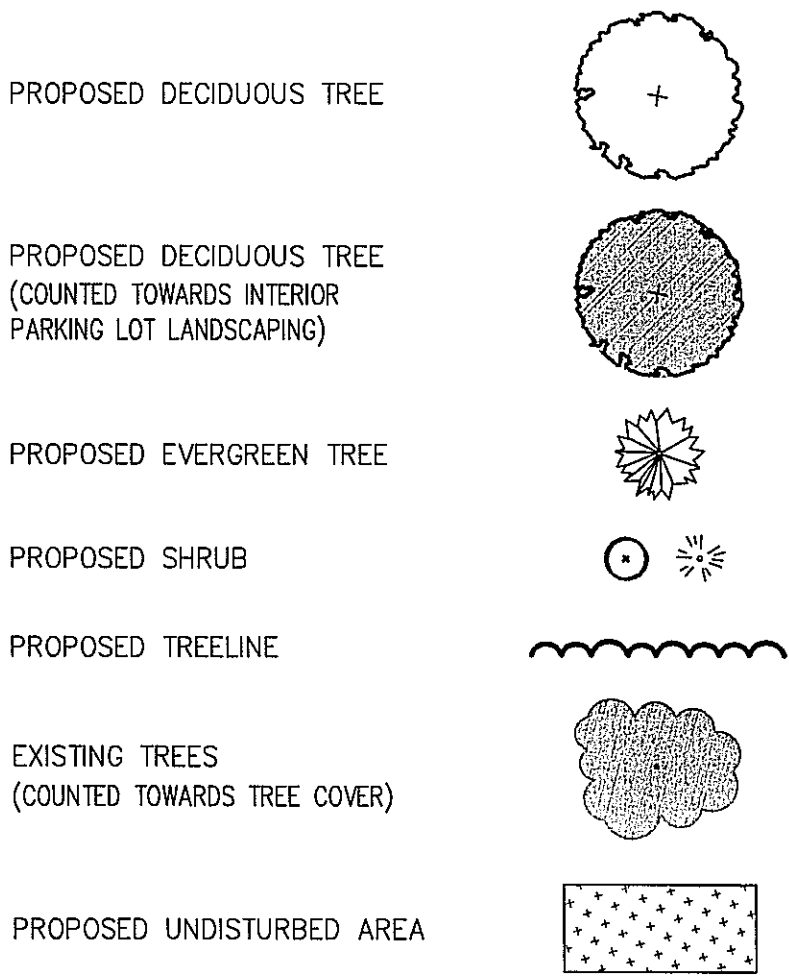
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1	DP1 REVS.		8/7/08	
2	DP2 CLIENT REVS.		10/22/08	
3	DP2 REVS.		11/24/08	
4	DP2 REVS.		12/16/08	
5	DP2 REVS.		1/6/09	



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DRAWN: MRW
SCALE: 1" = 30'



LANDSCAPE LEGEND



TREE COVER CALCULATIONS

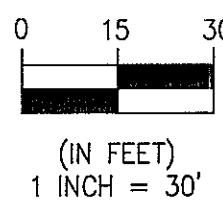
TOTAL SITE AREA	±118,953 S.F.
BUILDING FOOTPRINT	- ±5,075 S.F.
BUILDING FOOTPRINT	- ±29,750 S.F.
ADJUSTED SITE AREA	±84,128 S.F.
PERCENT REQUIRED	X 10 %
TREE COVER REQUIRED	±8,413 S.F.
TREE COVER PROVIDED (PLANTED)	±11,000 S.F.
EXISTING TREE COVERAGE	+ ±9,000 S.F.
TOTAL TREE COVERAGE	±20,000 S.F.

INTERIOR PARKING LOT LANDSCAPING CALCULATIONS

TOTAL PARKING AREA	±12,130 S.F.
PERCENT REQUIRED	X 5 %
REQUIRED	±607 S.F.
EXISTING INTERIOR PARKING LOT TREES	0 S.F.
PROPOSED (± CAT. IV TREES @ 200 SF EA.)	+ ±800 S.F.
	±800 S.F.

NOTES

1. THE UNDISTURBED AREA OUTSIDE OF THE LIMITS OF CLEARING AND GRADING IS APPROXIMATELY 22,000 SF AND THE PROPOSED TREE BUFFER IS APPROXIMATELY 7,000 SF, FOR A TOTAL OF APPROXIMATELY 29,000 SF.
2. TYPE H BARRIER WILL BE PROVIDED ON THE NORTHERN PROPERTY BOUNDARY.



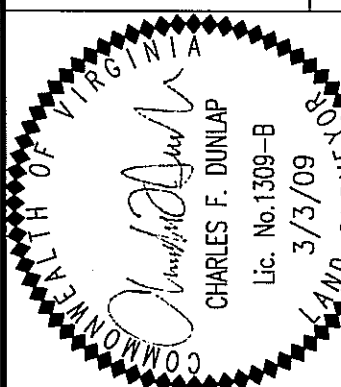
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(DP) (CDP) (CDP) (RDP)
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CONCEPTUAL LANDSCAPE PLAN

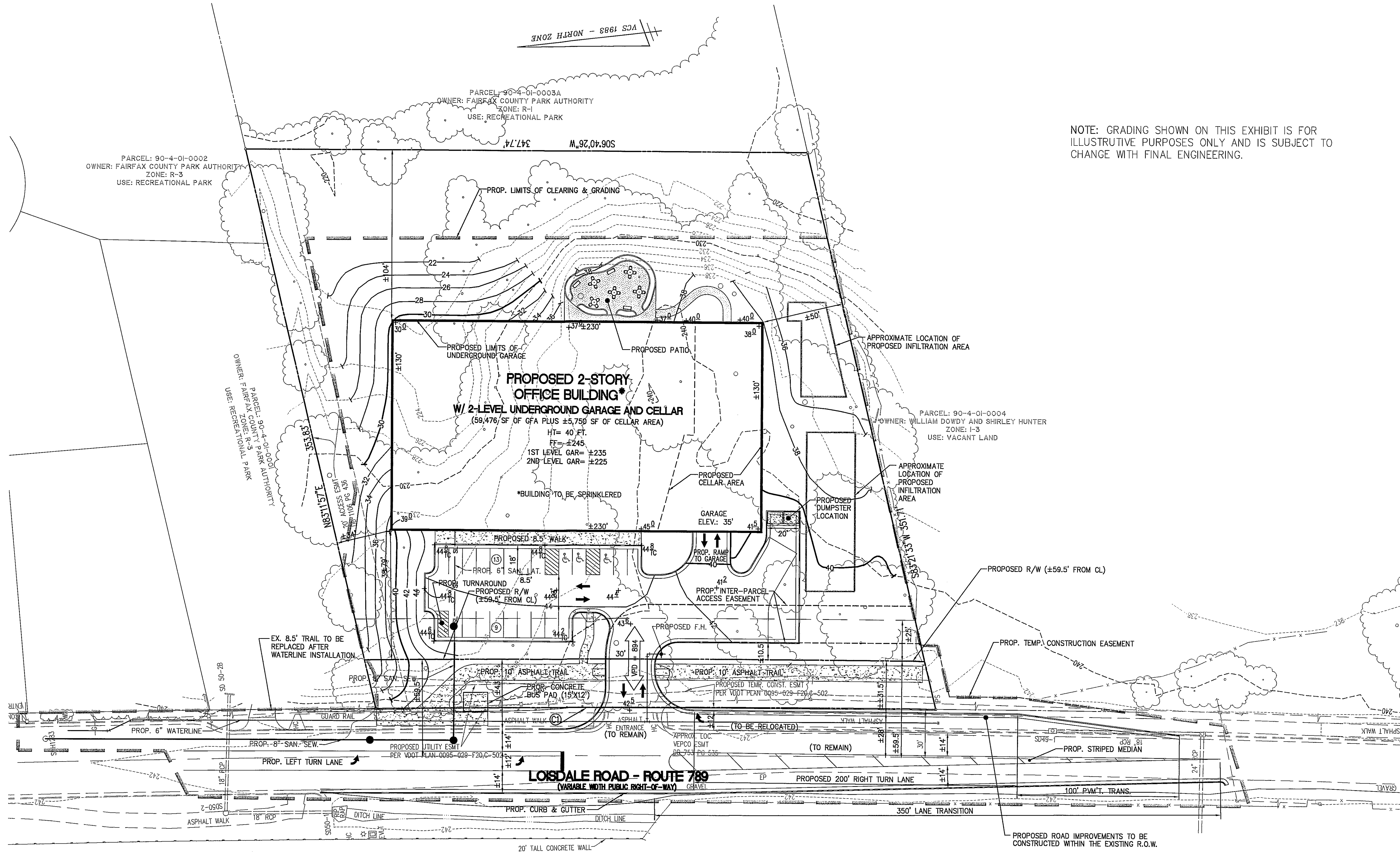
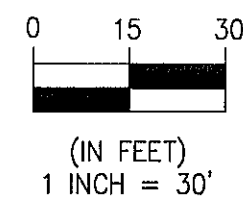
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NO.	DESCRIPTION	DATE	BY	REV.	DATE
1	DPZ REVS.	8/7/08			
2	DPZ CLIENT REVS.	10/22/08			
3	DPZ REVS.	11/24/08			
4	DPZ REVS.	12/19/08			
5	DPZ REVS.	1/9/09			



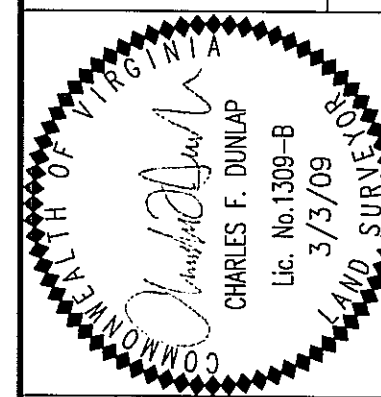
NOTE: GRADING SHOWN ON THIS EXHIBIT IS FOR ILLUSTRATIVE PURPOSES ONLY AND IS SUBJECT TO CHANGE WITH FINAL ENGINEERING.

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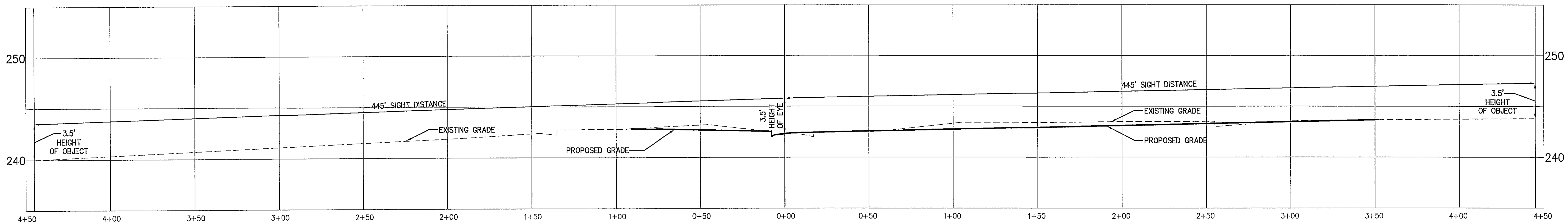
GRADING PLAN EXHIBIT

LOISDALE BUSINESS CENTER
LEE DISTRICT
FAIRFAX COUNTY, VIRGINIA

REVISION APPROVED BY			REV. BY			DATE		
NO.	DESCRIPTION	DATE	NO.	DESCRIPTION	DATE	NO.	DESCRIPTION	DATE
1	DP2 RKS	8/7/08	1	DP2 RKS	8/7/08	1	DP2 RKS	8/7/08
2	DP2 RKS	10/23/08	2	DP2 RKS	10/23/08	2	DP2 RKS	10/23/08
3	DP2 RKS	11/24/08	3	DP2 RKS	11/24/08	3	DP2 RKS	11/24/08
4	DP2 RKS	12/18/08	4	DP2 RKS	12/18/08	4	DP2 RKS	12/18/08
5	DP2 RKS	1/29/09	5	DP2 RKS	1/29/09	5	DP2 RKS	1/29/09



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207 PARK AVENUE FALLS CHURCH, VIRGINIA 22046
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DATE: 11/24/08; REV: 12/19/08; 3/3/09
DRAWN: MEW
SCALE: 1" = 30'



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 (DP) (GDP) (CDP) (FDP)
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REVISION APPROVED BY				
NO.	DESCRIPTION	DATE	REV. BY	APPROVED
1	DP7 REVS.	8/7/08		
2	DP7 CLIENT REVS.	10/23/08		
3	DP7 REVS.	11/24/08		
4	DP7 REVS.	12/19/08		
5	DP7 REVS.	1/6/09		

SCALE: $1'' = 30'$
 $1'' = 5'$

BMP/SWM NARRATIVE:

THE SITE CURRENTLY CONTAINS NO IMPERVIOUS AREA. THE PRE-DEVELOPMENT IMPERVIOUS AREA OF 0.00 AC WILL BE INCREASED TO 1.62 AC POST-DEVELOPMENT. THERE IS A 40.0% PHOSPHOROUS REMOVAL REQUIREMENT BASED ON THE CHESAPEAKE BAY PRESERVATION ORDINANCE REQUIREMENTS FOR DEVELOPMENT. THIS REMOVAL REQUIREMENT IS PROPOSED TO BE MET THROUGH THE USE OF TWO OR MORE INFILTRATION AREAS LOCATED NEAR THE SURFACE PARKING LOT AND SOUTHERN PROPERTY LINE. THE BMP DESIGN WILL BE FINALIZED AT THE TIME OF SITE PLAN PER INFILTRATION TESTING. THE NUMBER, LOCATION AND DESIGN OF INFILTRATION FACILITIES MAY BE ALTERED AT THE TIME OF SITE PLAN PENDING GEOTECHNICAL RECOMMENDATIONS.

THE PRE DEVELOPMENT PEAK RELEASES FROM THE SITE ARE 2.23 CFS AND 5.95 CFS FOR THE 2 YEAR AND 10 YEAR STORMS RESPECTIVELY. THESE RELEASES WILL BE REDUCED TO APPROXIMATELY 1.24 CFS AND 1.66 CFS POST-DEVELOPMENT WITH THE ADDITION OF THE INFILTRATION TRENCHES, RESULTING IN A 0.99 CFS REDUCTION IN PEAK RUNOFF DURING THE 2 YEAR STORM AND A 4.29 REDUCTION IN PEAK RUNOFF DURING THE 10 YEAR STORM.

OVERLAND RELIEF NARRATIVE:

IN THE EVENT THE INFILTRATION TRENCH COULD NOT ABSORB WATER DUE TO BLOCKAGE OR FAILURE, OVERLAND RELIEF WILL FLOW TOWARDS THE EAST THROUGH WOODED PARKLAND. THERE ARE NO BUILDINGS LOCATED IN THIS AREA THAT COULD BE FLOODED.

IT IS IN THE OPINION OF THE SUBMITTING ENGINEER THAT THE 100 YEAR OVERLAND RELIEF RESULTING FROM THIS DEVELOPMENT IS ADEQUATE, AND IN ACCORDANCE WITH PFM 6.1501-1A, THE 100 YEAR STORM EVENT WILL NOT FLOOD BUILDINGS.

STORMWATER MANAGEMENT COMPUTATIONS

I. SITE AREA

ENTIRE SITE AREA = 2.73 AC

II. PRE-DEVELOPMENT

- A. CONTRIBUTING AREAS:
2.73 AC @ 0.30 (GREEN AREA)
0.00 AC @ 0.90 (ROOFS, PAVED AREAS)
2.73 AC
- B. WEIGHTED "C":
 $\frac{(2.73)(0.30)+(0.00)(0.90)}{2.73} = 0.30$
- C. TIME OF CONCENTRATION = 5 MINUTES
- D. RUNOFF: $Q2 = (0.15)(5.45)(2.73) = 2.23$ CFS
 $Q10 = (0.30)(7.27)(2.73) = 5.95$ CFS

POST-DEVELOPMENT TO INFILTRATION TRENCH #1

- A. CONTRIBUTING AREAS:
0.14 AC @ 0.30 (GREEN AREA)
1.31 AC @ 0.90 (ROOFS, PAVED AREAS)
1.45 AC
- B. WEIGHTED "C":
 $\frac{(0.14)(0.30)+(1.31)(0.90)}{1.45} = 0.84$
- C. TIME OF CONCENTRATION = 5 MINUTES
- D. RUNOFF: $Q2 = (0.84)(5.45)(1.45) = 6.64$ CFS
 $Q10 = (0.84)(7.27)(1.45) = 8.85$ CFS

POST-DEVELOPMENT TO INFILTRATION TRENCH #2

- A. CONTRIBUTING AREAS:
0.21 AC @ 0.30 (GREEN AREA)
0.31 AC @ 0.90 (ROOFS, PAVED AREAS)
0.52 AC
- B. WEIGHTED "C":
 $\frac{(0.21)(0.30)+(0.31)(0.90)}{0.52} = 0.66$
- C. TIME OF CONCENTRATION = 5 MINUTES
- D. RUNOFF: $Q2 = (0.66)(5.45)(0.52) = 1.87$ CFS
 $Q10 = (0.66)(7.27)(0.52) = 2.50$ CFS

POST-DEVELOPMENT UNDETAINED SHEET FLOW

- A. CONTRIBUTING AREAS:
0.76 AC @ 0.30 (GREEN AREA)
0.00 AC @ 0.90 (ROOFS, PAVED AREAS)
0.76 AC
- B. WEIGHTED "C":
 $\frac{(0.76)(0.30)+(0.00)(0.90)}{0.76} = 0.30$
- C. TIME OF CONCENTRATION = 5 MINUTES
- D. RUNOFF: $Q2 = (0.30)(5.45)(0.76) = 1.24$ CFS
 $Q10 = (0.30)(7.27)(0.76) = 1.66$ CFS

OUTFALL NARRATIVE:

EXISTING CONDITIONS- THE SITE CURRENTLY CONTAINS NO IMPERVIOUS AREA. THE ENTIRE LOT SHEET FLOWS TO THE EAST. THERE IS CURRENTLY NO CONCENTRATED FLOW LEAVING THE PROPERTY.

ONCE THE SHEET FLOW LEAVES THE PROPERTY, IT IS PICKED UP IN AN EXISTING DITCH ON THE PARK AUTHORITY PROPERTY DIRECTLY TO THE EAST. THIS DITCH CONVEYS RUNOFF TO THE EAST TOWARDS A TRIBUTARY OF LONG BRANCH.

PROPOSED CONDITIONS- WITH THE PROPOSED DEVELOPMENT, AN IMPERVIOUS AREA OF 1.62 ACRES IS PROPOSED. THE SITE IS SERVED BY TWO PROPOSED INFILTRATION TRENCHES. ALL RUNOFF FROM THE PROPOSED STRUCTURE AND PARKING LOT WILL BE DIRECTED TOWARDS THE TWO INFILTRATION TRENCHES. THESE TRENCHES HAVE GOOD INFILTRATION RATES OF BETWEEN 1.8" AND 4.0" PER HOUR. THEY HAVE BEEN DESIGNED TO INFILTRATE THE ENTIRE 10 YEAR STORM RUNOFF VOLUME FOR THE AREA DRAINING TO THEM WITH A RELEASE RATE OF 0 CFS.

THE REMAINDER OF THE PERVIOUS AREA ON THE SITE WILL CONTINUE TO SHEET FLOW FROM THE PROPERTY. PER PFM SECTION 6.0202.6A, THE OWNER MAY CONTINUE TO DISCHARGE STORMWATER WHICH HAS NOT BEEN CONCENTRATED (I.E. SHEET FLOW) INTO A LOWER LYING PROPERTY IF THE PEAK RATE AFTER DEVELOPMENT DOES NOT EXCEED THE PRE-DEVELOPMENT PEAK RATE. THEREFORE, BECAUSE THE AMOUNT OF RUNOFF SHEET FLOWING TOWARDS THE EAST HAS BEEN REDUCED WITH THE POST-DEVELOPMENT CONDITION, THE SITE HAS AN ADEQUATE OUTFALL.

THIS PRELIMINARY OUTFALL ANALYSIS IS SUBJECT TO CHANGE WITH FUTURE ENGINEERING AND WILL BE REEVALUATED AND VERIFIED WITH FUTURE PLANS.

BMP COMPUTATIONS

WATERSHED INFORMATION:

PART 1 -- LIST ALL OF SUBAREAS & "C" FACTORS USED IN THE BMP COMPUTATIONS

(1) DESCRIPTION	(2) "C"	(3) ACRES
A1 ONSITE CONTROLLED (TRENCH #1)	0.84	1.45
A2 ONSITE CONTROLLED (TRENCH #2)	0.66	0.52
A3 ONSITE UNCONTROLLED	0.30	0.76
		2.73

PART 2 -- COMPUTE THE AVERAGE "C" FACTOR FOR THE ENTIRE SITE

(A) AREA OF SITE (a) 2.73 AC

(1)	(2)	(3)	(4)
A1	0.84 X	1.45	= 1.22
A2	0.66 X	0.52	= 0.34
A3	0.30 X	0.76	= 0.23
		(b)	1.79

(C) WEIGHTED "C" FACTOR (b)/(a) = 1.79 / 2.73 = 0.66

PART 3 -- COMPUTE THE TOTAL PHOSPHOROUS REMOVAL FOR THE SITE

SUBAREA DESIGNATION	BMP TYPE	EFFICIENCY EFF (%)	AREA RATIO	"C" FACTOR	PRODUCT
(1)	(2)	(3)	(4)	(5)	(6)
A1	INFILTRATION TRENCH #1	70	x 1.45/2.73	x 0.84/0.66	= 47.3
A2	INFILTRATION TRENCH #2	70	x 0.52/2.73	x 0.66/0.66	= 13.3
					60.6

DETERMINE COMPLIANCE WITH PHOSPHOROUS REMOVAL REQUIREMENT

(A) SELECT REQUIREMENT 40%

* WATER SUPPLY OVERLAY DISTRICT (OCCOQUAN WATERSHED) = 50 %

* CHESAPEAKE BAY PRESERVATION AREA (NEW DEVELOPMENT) = 40 %

* CHESAPEAKE BAY PRESERVATION AREA (REDEVELOPMENT) =
1-[0.9 x ("I" pre./"I" post)] x 100 =

IF LINE 3(a) 60.6% > LINE 4 (a) 40%, THEN PHOSPHOROUS REMOVAL IS SATISFIED .

STORMWATER MANAGEMENT CHECKLIST

The following information is required to be shown or provided in all zoning applications, or a waiver request of the submission requirement with justification shall be attached. Note: Waivers will be acted upon separately. Failure to adequately address the required submission information may result in a delay in processing this application.

This information is required under the following Zoning Ordinance paragraphs:
Special Permits (8-011 2J & 2L) Special Exceptions (9-011 2J & 2L)
Cluster Subdivision (9-615 1G & 1N) Commercial Revitalization Districts (9-622 2A (12) & (14))
Development Plans PRC District (16-302 3 & 4L) PRC Plan (16-303 1E & 1O)
FDP P Districts (except PRC) (16-502 1F & 1Q) Amendments (18-202 10F & 10I)

- ☒ 1. Plat is at a minimum scale of 1"=50' (unless it is depicted on one sheet with a minimum scale of 1"=100').
- ☒ 2. A graphic depicting the stormwater management facility(ies) and limits of clearing and grading accommodate the stormwater management facility(ies), storm drainage pipe systems and outlet protection, pond spillways, access roads, site outfalls, energy dissipation devices, and stream stabilization measures as shown on Sheet 3, 5, & 6
- ☒ 3. Provide:
Facility Name/ Type & No. On-site area served (acres) Off-site area served (acres) Drainage area (acres) Footprint area (sf) Storage Volume (cf) If pond, dam height (ft)
TRENCH 1 1.45 0 1.45 3150 12600 NA
TRENCH 2 0.52 0 0.52 1500 3000 NA
Totals Totals Totals Totals Totals Totals
- ☒ 4. Onsite drainage channels, outfalls and pipe systems are shown on Sheet 3.
Pond inlet and outlet pipe systems are shown on Sheet N/A.
- ☒ 5. Maintenance access (road) to stormwater management facility(ies) are shown on Sheet 3.
Type of maintenance access road surface noted on the plat is N/A (asphalt, geoblock, gravel, etc.).
- ☒ 6. Landscaping and tree preservation shown in and near the stormwater management facility is shown on Sheet 4.
- ☒ 7. A 'stormwater management narrative' which contains a description of how detention and best management practices requirements will be met is provided on Sheet 5.
- ☒ 8. A description of the existing conditions of each numbered site outfall extended downstream from the site to a point which is at least 100 times the site area or which has a drainage area of at least one square mile (640 acres) is provided on Sheet 5.
- ☒ 9. A description of how the outfall requirements, including contributing drainage areas of the Public Facilities Manual will be satisfied is provided on Sheet 5.
- ☒ 10. Existing topography with maximum contour intervals of two (2) feet and a note as to whether it is an air survey or field run is provided on Sheets 2.
- ☐ 11. A submission waiver is requested for N/A.
- ☐ 12. Stormwater management is not required because N/A.

NOTE:

INFILTRATION TRENCH LOCATION AND SIZING ARE BASED ON SOIL TESTING PERFORMED BY PEIDMONT GEOTECHNICAL IN WINTER 2008. SOIL TESTING IS BASED ON THE CURRENT FAIRFAX COUNTY LTI #07-04 AND PFM STANDARDS.

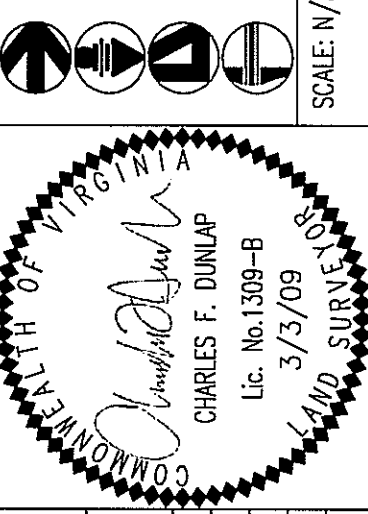
Application No PCA 80-L-004 Staff KGS
APPROVED DEVELOPMENT PLAN
(DP) (CDP) (CDP) (FDP)
SEE PROFFERS DATED 4-22-2009
Date of PC approval 3-18-2009
Date of CDP approval 4-27-2009

Sheet 7 of 10

PRELIMINARY SWM/BMP COMPUTATIONS & OUTFALL ANALYSIS

LOISDALE BUSINESS CENTER

LEE DISTRICT
FAIRFAX COUNTY, VIRGINIA



NO.	DESCRIPTION	DATE	REV.	BY	APPROVED	DATE
1	DPZ REVS.	8/7/08				
2	DPZ CLIENT REVS.	10/22/08				
3	DPZ REVS.	11/22/08				
4	DPZ REVS.	12/15/08				
5	DPZ REVS.	1/8/09				

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(703) 532-6163 FAX (703) 533-1801
WWW.WLPHINC.COM
DATE: 06/18/08 REV: 8/7/08 10/23/08
REV: 11/24/08 12/15/08 3/3/09
DRAWN: JY

TRENCH #1 SIZING COMPUTATIONS

BMP STORAGE COMPUTATIONS

IN ORDER TO ACHIEVE THE 65% PHOSPHORUS REMOVAL EFFICIENCY, THE INFILTRATION TRENCH MUST HAVE ADEQUATE CAPACITY TO STORE THE FIRST 1.0 INCH OF RUNOFF FOR EACH IMPERVIOUS ACRE.

DRAINAGE AREA = 1.45 AC
IMPERVIOUS AREA = 1.31 AC
% IMPERVIOUS = 1.31/1.45 x 100 = 90%

BMP VOLUME REQUIRED = 1.0" / 12"/FT x 1.45 AC x 0.90 x 43,560 SF/AC
BMP VOLUME REQUIRED = 4,738 CF
BMP VOLUME PROVIDED AT DEPTH = 228.8'

THEREFORE, 65% PHOSPHORUS REMOVAL IS ACHIEVED.

SWM STORAGE COMPUTATION

IN ORDER TO DETAIN THE 10 YEAR, 2-HR STORM RUNOFF AND ACHIEVE THE 70% PHOSPHORUS REMOVAL EFFICIENCY, THE INFILTRATION TRENCH MUST HAVE ADEQUATE CAPACITY TO STORE 3.0 INCHES OF RUNOFF FOR EACH IMPERVIOUS ACRE.

DRAINAGE AREA = 1.45 AC
IMPERVIOUS AREA = 1.31 AC
% IMPERVIOUS = 1.31/1.45 x 100 = 90%

VOLUME IN (RUNOFF INTO TRENCH) = 3.0" / 12"/FT x 1.45 AC x 0.90 x 43,560 SF/AC = 14,212 CF

AREA OF TRENCH = 30' x 105' = 3,150 SF
INFILTRATION TRENCH DESIGN PERCOLATION RATE = 3.39"/HR = 0.0565"/MIN
DESIGN PERCOLATION RATE TO BE FINALIZED/UPDATED WITH SITE PLAN

VOLUME OUT = (0.0565"/MIN) X (60 MIN/HR) X (2 HR) X (1'/12") X 3,150 SF) = 1,780 CF
VOLUME STORAGE REQUIRED = VOLUME IN - VOLUME OUT = 14,212 CF - 1,780 CF = 12,432 CF
TOTAL STORAGE PROVIDED = 12,600 CF (10'D x 30'W x 105'L)- VDOT 57 STONE USED
THEREFORE, 70% PHOSPHORUS REMOVAL IS ACHIEVED.

ELEVATION- STORAGE CHART
USING #57 STONE @ 40% VOIDS

ELEVATION (FT)	STORAGE IN TRENCH (CF)
225.00	0.00
226.00	1260.00
227.00	2520.00
228.00	3780.00
229.00	5040.00
230.00	6300.00
231.00	7560.00
232.00	8820.00
233.00	10080.00
234.00	11340.00
235.00	12600.00

DRAIN TIME

TIME NECESSARY FOR TRENCH TO DRAIN, PER NORTHERN VIRGINIA BMP HANDBOOK PG. 5-29.

$$T = \frac{d^3 P V_r}{ER}$$

T = DRAIN TIME (HRS)

PVr = PORE VOLUME RATIO OF STONE

d = DEPTH OF TRENCH (FT)

ER = EXFILTRATION RATE (FT/HR)

LOT #1 TRENCH VARIABLES

ER = 0.0565' /MIN = 0.2825' /HR
d = 10.0'
PVr = 0.40

$$T = \frac{(10.0')^3 (0.40)}{0.2825' /HR} = 14.2 \text{ HRS}$$

INFILTRATION TRENCH #1 NARRATIVE

INFILTRATION TRENCH #1 LOCATED TO THE SOUTH OF THE PROPOSED BUILDING AND PARKING LOT WILL TREAT 1.45 ACRES AT A C-FACTOR OF 0.84. THE TRENCH HAS BEEN DESIGNED TO INFILTRATE THE ENTIRE VOLUME OF RUNOFF GENERATED BY THE 10 YEAR STORM FOR THE AREA TO THE TRENCH. THERE WILL BE A RELEASE RATE OF 0 CFS FROM THE TRENCH.

ADEQUATE PRE-TREATMENT FOR SEDIMENT CONTROL WILL BE DESIGNED AND INCLUDED WITH THE FINAL SITE PLAN. PRE-TREATMENT WILL BE PROVIDED THROUGH THE USE OF FILTER STRIPS AND/OR SUMP STRUCTURES IN LINE WITH THE INFILTRATION TRENCHES.

THE TRENCH SIZING WILL BE UPDATED AS NECESSARY AT THE TIME OF SITE PLAN IN ORDER TO ENSURE THAT THE POST-DEVELOPMENT STORMWATER RUNOFF RELEASES FROM THE SITE ARE LESS THAN THE PRE-DEVELOPMENT RELEASES.

TRENCH #2 SIZING COMPUTATIONS

BMP STORAGE COMPUTATIONS

IN ORDER TO ACHIEVE THE 65% PHOSPHORUS REMOVAL EFFICIENCY, THE INFILTRATION TRENCH MUST HAVE ADEQUATE CAPACITY TO STORE THE FIRST 1.0 INCH OF RUNOFF FOR EACH IMPERVIOUS ACRE.

DRAINAGE AREA = 0.52 AC
IMPERVIOUS AREA = 0.31 AC
% IMPERVIOUS = 0.31/0.52 x 100 = 60%

BMP VOLUME REQUIRED = 1.0" / 12"/FT x 0.52 AC x 0.60 x 43,560 SF/AC
BMP VOLUME REQUIRED = 1,133 CF
BMP VOLUME PROVIDED AT DEPTH = 226.9'

THEREFORE, 65% PHOSPHORUS REMOVAL IS ACHIEVED.

SWM STORAGE COMPUTATION

IN ORDER TO DETAIN THE 10 YEAR, 2-HR STORM RUNOFF AND ACHIEVE THE 70% PHOSPHORUS REMOVAL EFFICIENCY, THE INFILTRATION TRENCH MUST HAVE ADEQUATE CAPACITY TO STORE 3.0 INCHES OF RUNOFF FOR EACH IMPERVIOUS ACRE.

DRAINAGE AREA = 0.52 AC
IMPERVIOUS AREA = 0.31 AC
% IMPERVIOUS = 0.31/0.52 x 100 = 60%

VOLUME IN (RUNOFF INTO TRENCH) = 3.0" / 12"/FT x 0.52 AC x 0.60 x 43,560 SF/AC = 3,398 CF

AREA OF TRENCH = 30' x 50' = 1,500 SF
INFILTRATION TRENCH DESIGN PERCOLATION RATE = 1.88"/HR = 0.0313"/MIN
DESIGN PERCOLATION RATE TO BE FINALIZED/UPDATED WITH SITE PLAN

VOLUME OUT = (0.0313"/MIN) X (60 MIN/HR) X (2 HR) X (1'/12") X 1,500 SF) = 470 CF
VOLUME STORAGE REQUIRED = VOLUME IN - VOLUME OUT = 3,398 CF - 470 CF = 2,928 CF
TOTAL STORAGE PROVIDED = 3,000 CF (5'D x 30'W x 50'L)- VDOT 57 STONE USED
THEREFORE, 70% PHOSPHORUS REMOVAL IS ACHIEVED.

ELEVATION- STORAGE CHART
USING #57 STONE @ 40% VOIDS

ELEVATION (FT)	STORAGE IN TRENCH (CF)
225.00	0.00
226.00	600.00
227.00	1200.00
228.00	1800.00
229.00	2400.00
230.00	3000.00

DRAIN TIME

TIME NECESSARY FOR TRENCH TO DRAIN, PER NORTHERN VIRGINIA BMP HANDBOOK PG. 5-29.

$$T = \frac{d^3 P V_r}{ER}$$

T = DRAIN TIME (HRS)

PVr = PORE VOLUME RATIO OF STONE

d = DEPTH OF TRENCH (FT)

ER = EXFILTRATION RATE (FT/HR)

LOT #1 TRENCH VARIABLES

ER = 0.0313' /MIN = 0.1567' /HR
d = 5.0'
PVr = 0.40

$$T = \frac{(5.0')^3 (0.40)}{0.1567' /HR} = 12.8 \text{ HRS}$$

INFILTRATION TRENCH #2 NARRATIVE

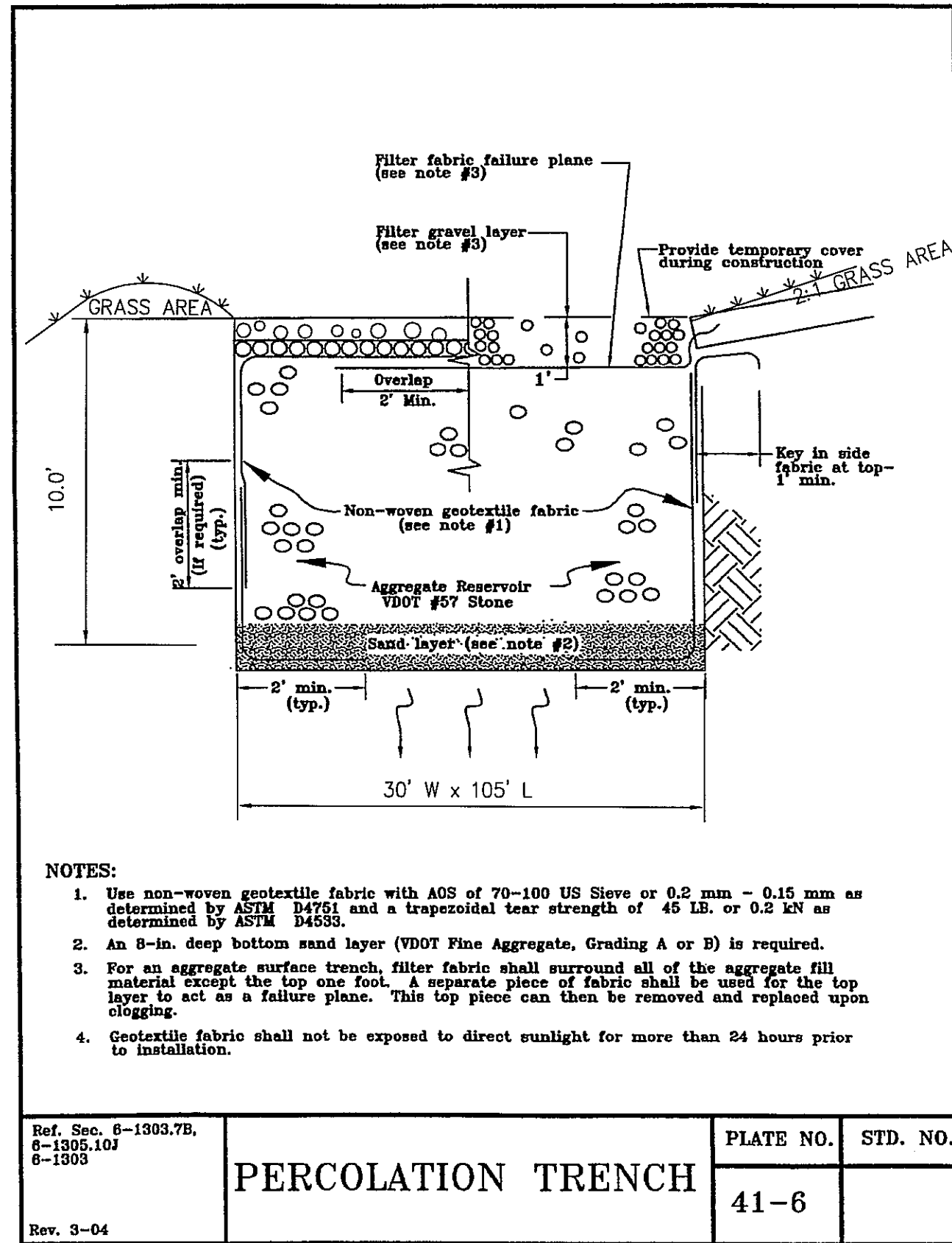
INFILTRATION TRENCH #2 LOCATED TO ADJACENT TO THE SOUTHERN PROPERTY LINE, TO THE EAST OF TRENCH #1, WILL TREAT 0.52 ACRES AT A C-FACTOR OF 0.66. THE TRENCH HAS BEEN DESIGNED TO INFILTRATE THE ENTIRE VOLUME OF RUNOFF GENERATED BY THE 10 YEAR STORM FOR THE AREA TO THE TRENCH. THERE WILL BE A RELEASE RATE OF 0 CFS FROM THE TRENCH.

ADEQUATE PRE-TREATMENT FOR SEDIMENT CONTROL WILL BE DESIGNED AND INCLUDED WITH THE FINAL SITE PLAN. PRE-TREATMENT WILL BE PROVIDED THROUGH THE USE OF FILTER STRIPS AND/OR SUMP STRUCTURES IN LINE WITH THE INFILTRATION TRENCHES.

THE TRENCH SIZING WILL BE UPDATED AS NECESSARY AT THE TIME OF SITE PLAN IN ORDER TO ENSURE THAT THE POST-DEVELOPMENT STORMWATER RUNOFF RELEASES FROM THE SITE ARE LESS THAN THE PRE-DEVELOPMENT RELEASES.

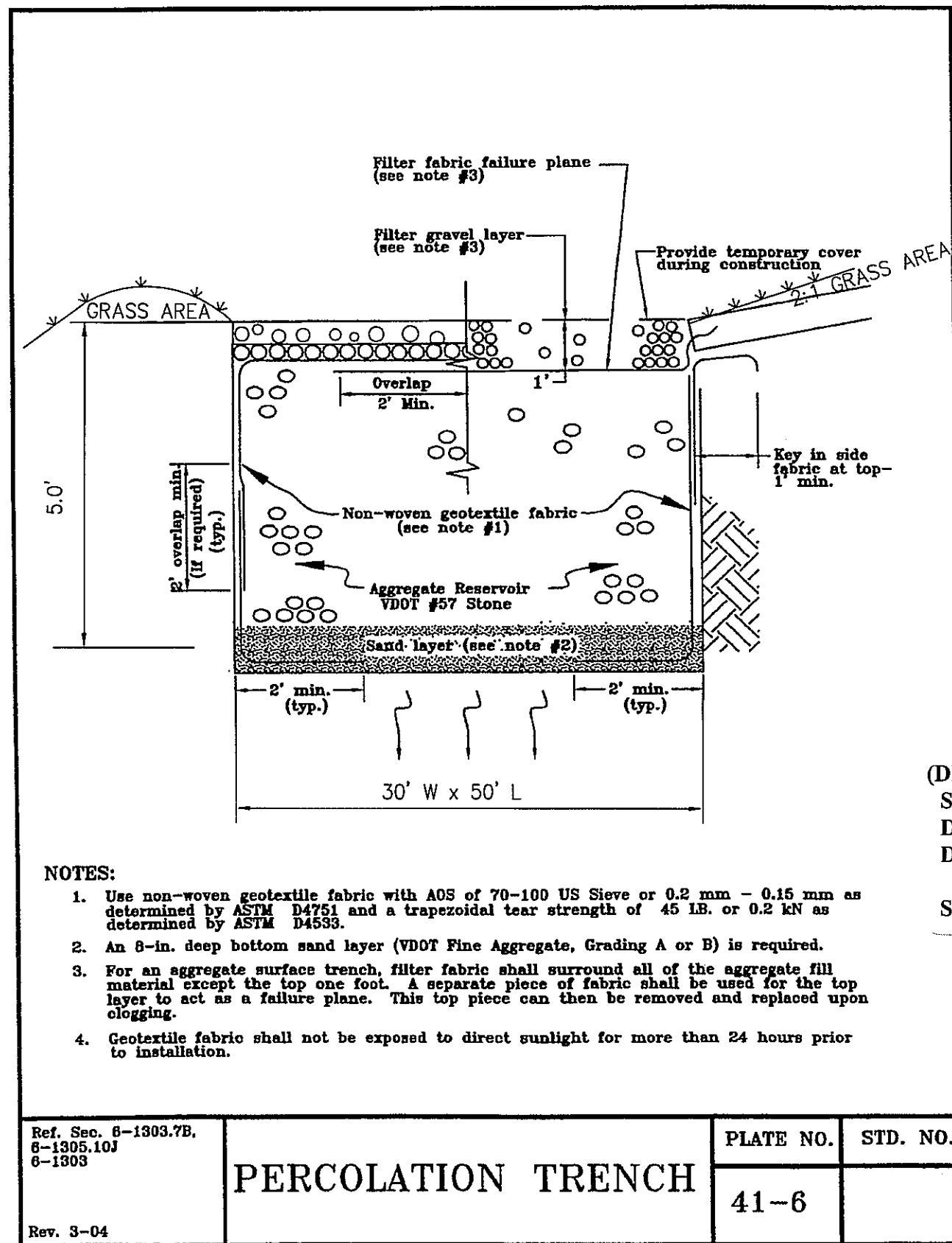
TRENCH #1 DETAIL

FAIRFAX COUNTY PUBLIC FACILITIES MANUAL



TRENCH #2 DETAIL

FAIRFAX COUNTY PUBLIC FACILITIES MANUAL



Application No PCA-80-L-004 Staff KGS
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(DP) (CDP) (CDP) (FDP)
SEE PROFFERS DATED 4-22-2009
Date of PC approval 3-18-2009
Date of BOS approval 4-27-2009

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PROPOSED TRENCH COMPUTATIONS/DETAILS

LOISDALE BUSINESS CENTER

LEE DISTRICT
FAIRFAX COUNTY, VIRGINIA

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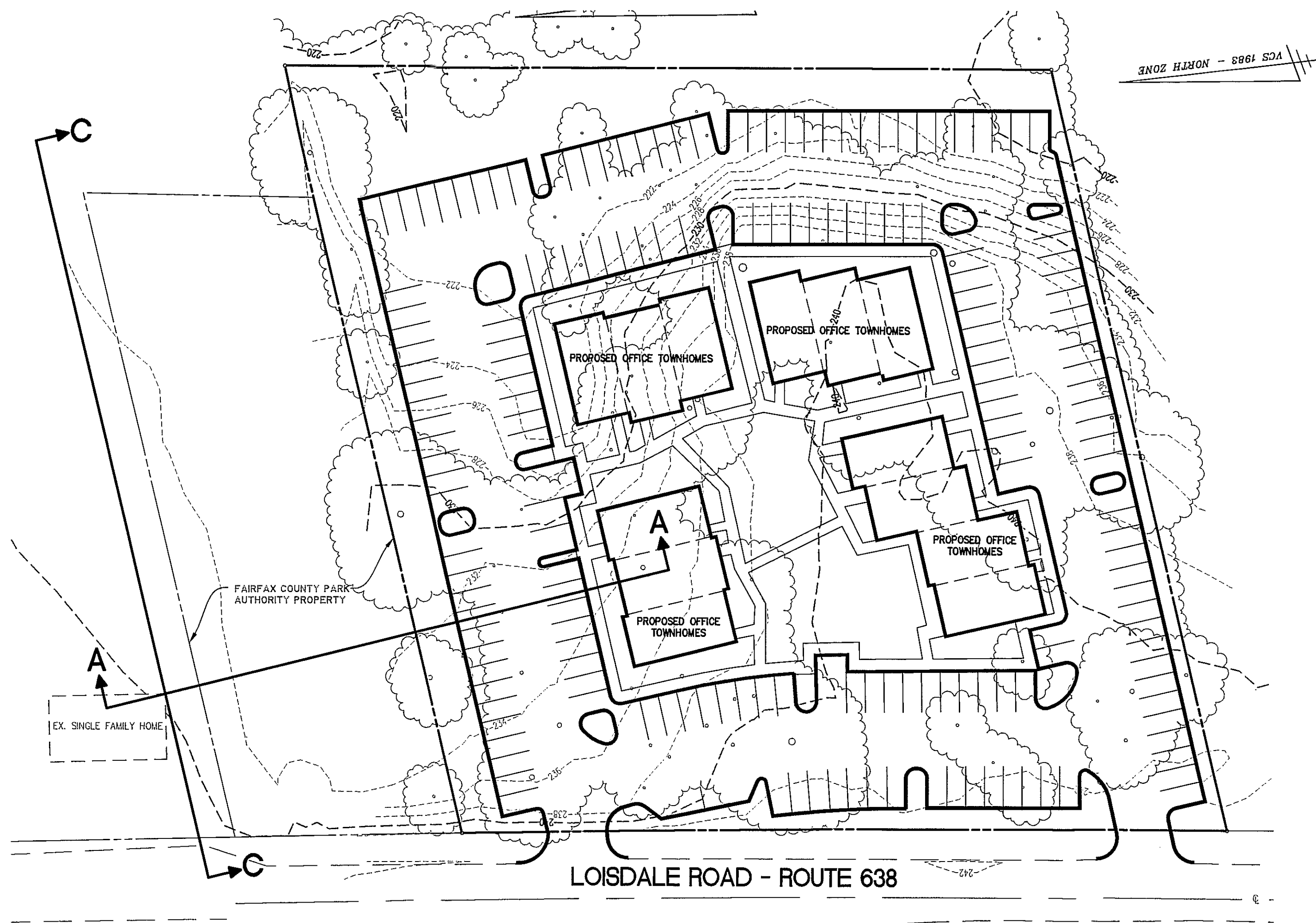
REVISION APPROVED BY

NO.	DESCRIPTION	DATE	REV.	BY	APPROVED	DATE
1	DPZ RES.	8/7/08				
2	DPZ/DEMT RES.	10/23/08				
3	DPZ RES.	11/24/08				
4	DPZ RES.	12/19/08				

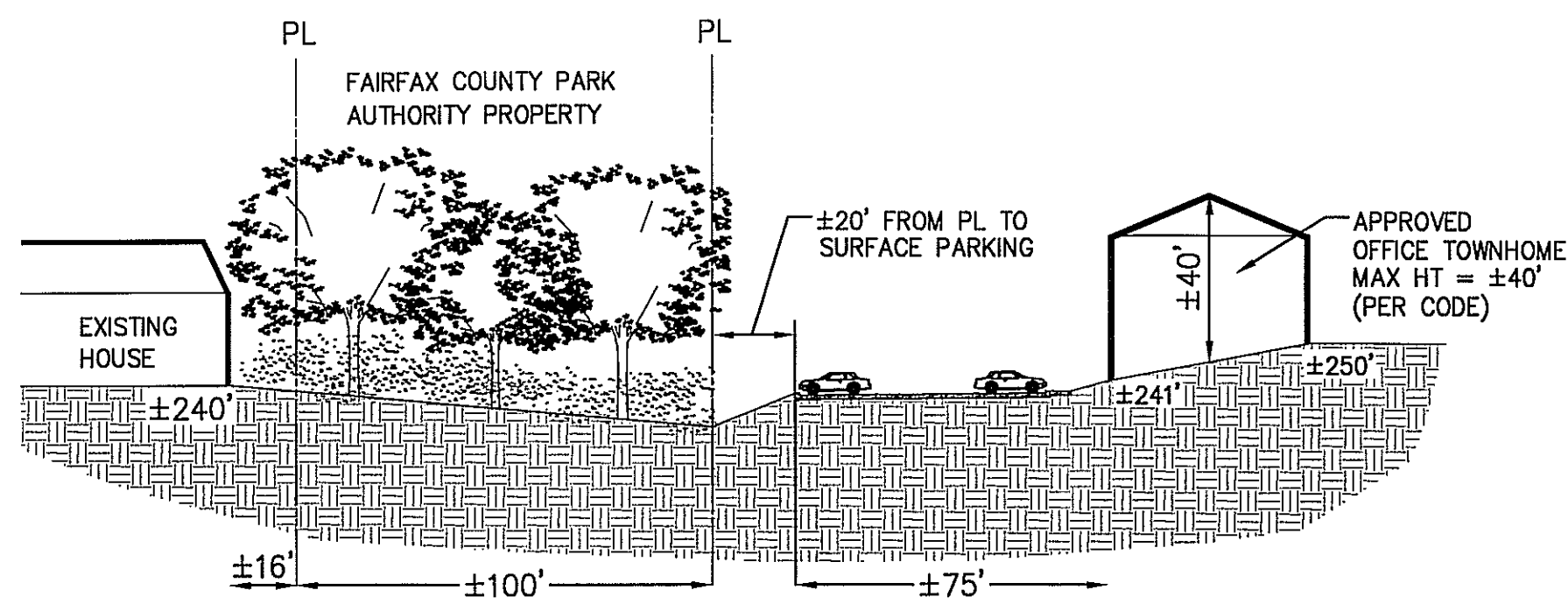
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DATE: 06/18/08 REV: 8/7/08 10/23/08 11/24/08 12/19/08 3/3/09

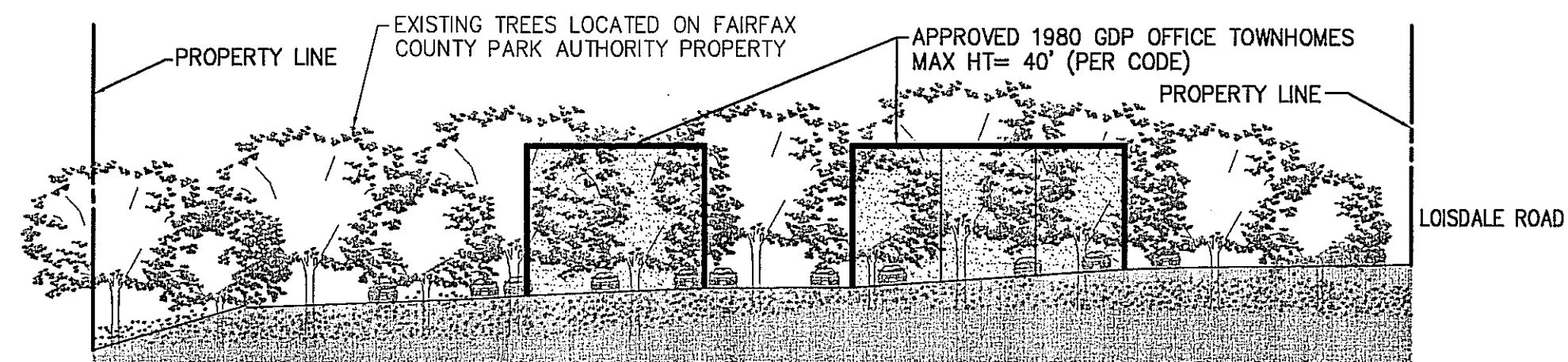
SHEET: 8 OF 10



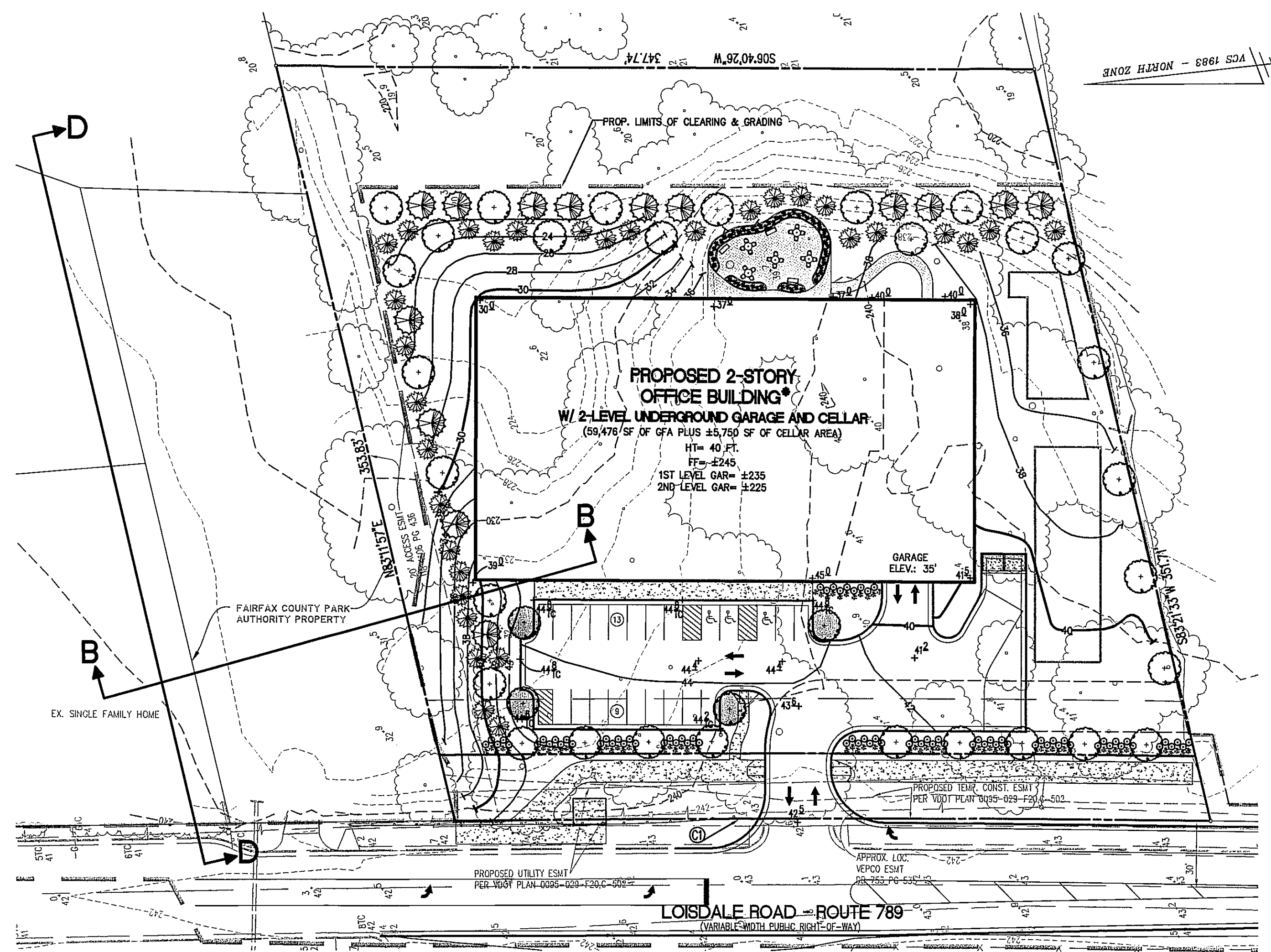
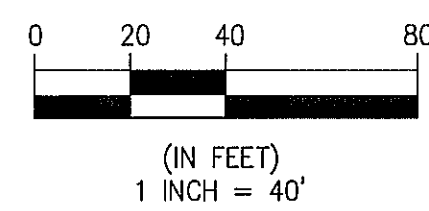
APPROVED 1980 GDP - PLAN VIEW
SCALE: 1" = 40'



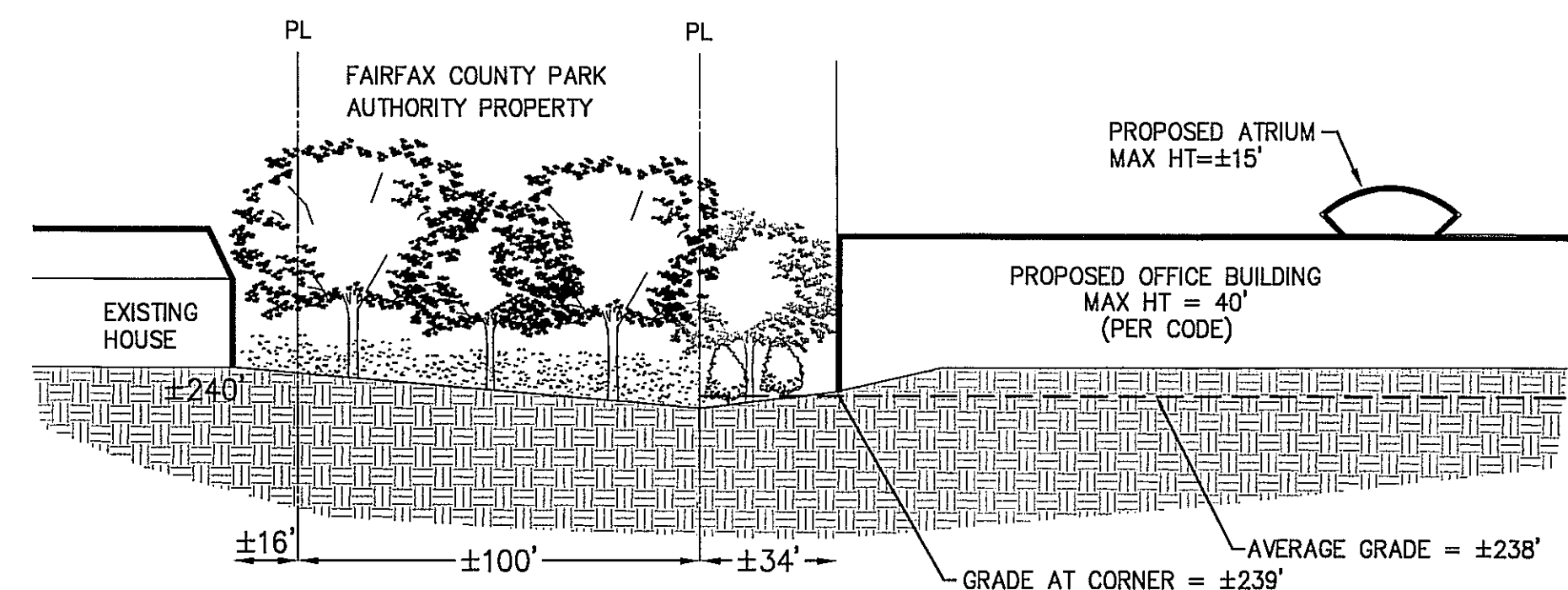
APPROVED 1980 GDP - SECTION A DETAIL
SCALE: 1" = 40'



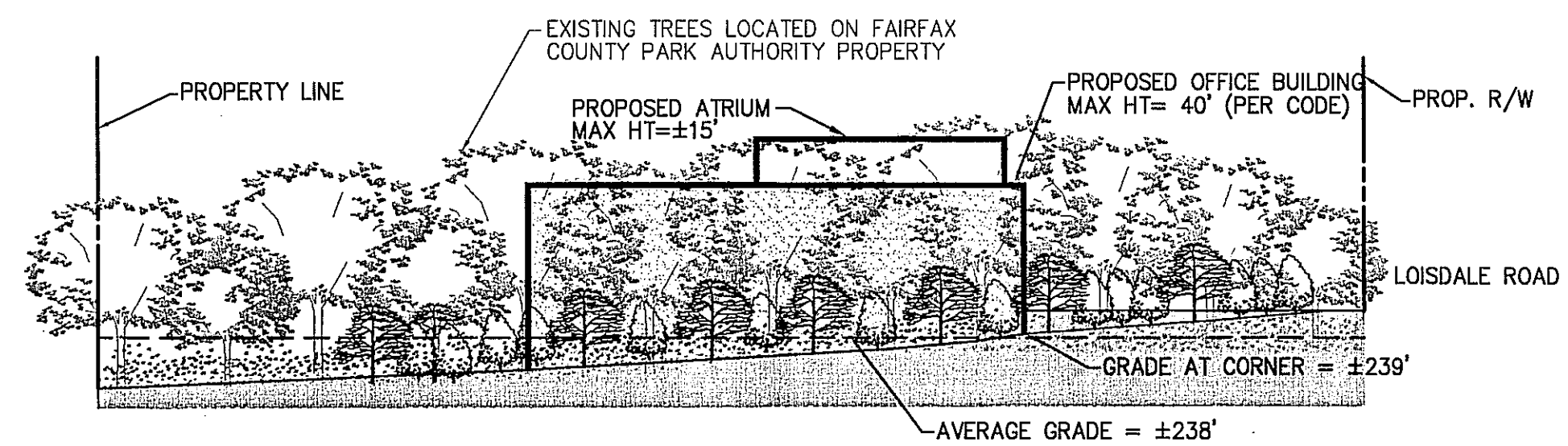
APPROVED 1980 GDP - SECTION C DETAIL
SCALE: 1" = 40'



2008 PCA/GDP - PLAN VIEW
SCALE: 1" = 40'



2008 PCA/GDP - SECTION B DETAIL
SCALE: 1" = 40'



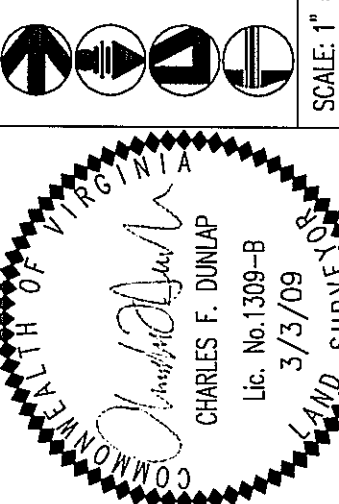
2008 PCA/GDP - SECTION D DETAIL
SCALE: 1" = 40'

NOTE

1. THIS EXHIBIT ALONG WITH THE GRADING SHOWN IS FOR ILLUSTRATIVE PURPOSES ONLY AND IS SUBJECT TO CHANGE WITH FINAL ENGINEERING.

CROSS-SECTION/DETAILS EXHIBIT (FOR ILLUSTRATIVE PURPOSES ONLY)

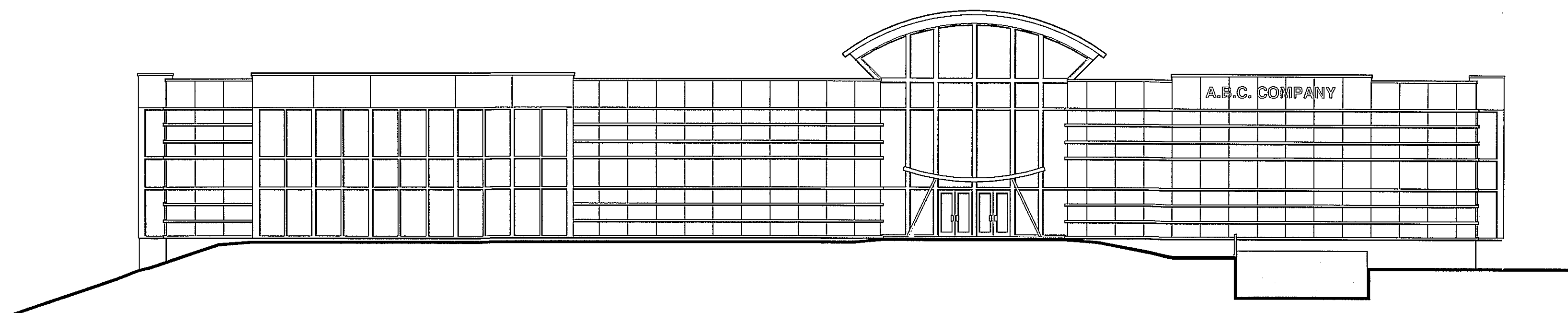
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FAIRFAX COUNTY, VIRGINIA



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3	REV. REVISIONS	11/24/08			
4	REV. REVISIONS	12/19/08			
5	REV. REVISIONS	1/8/09			

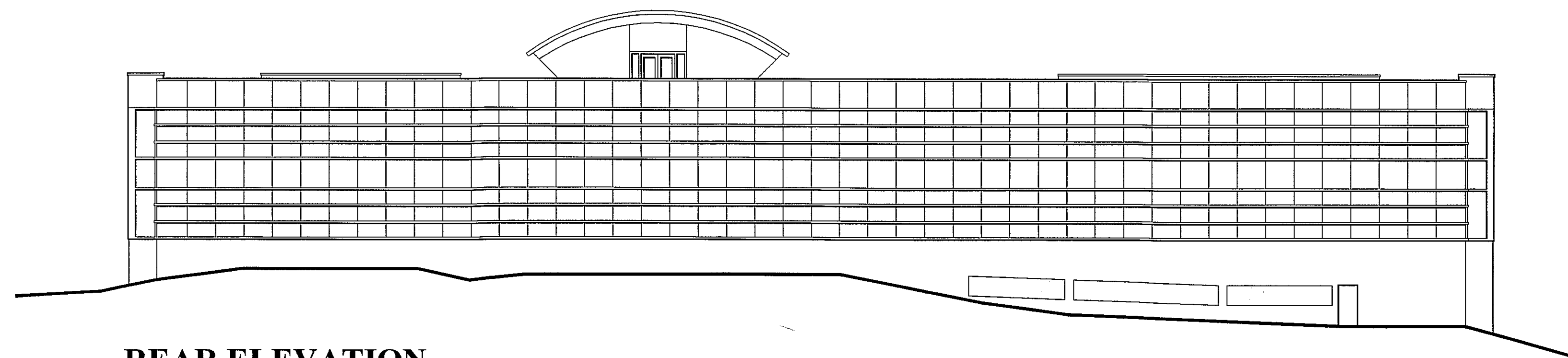
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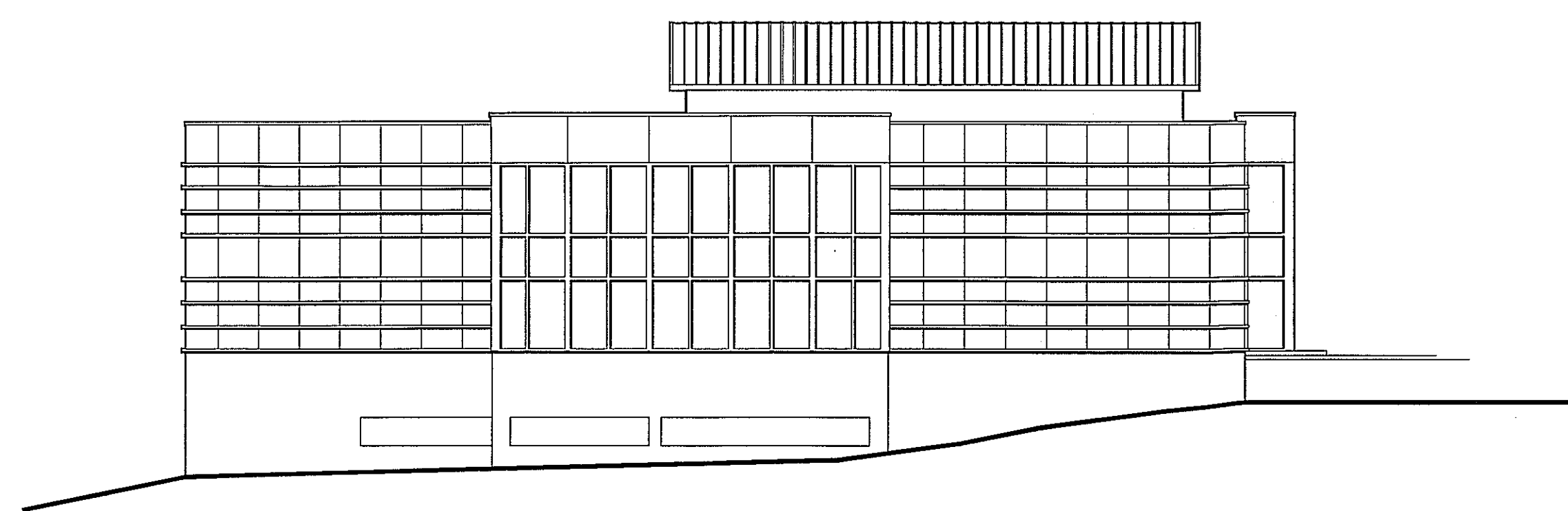
FRONT ELEVATION

SCALE: 1/16"=1'-0"



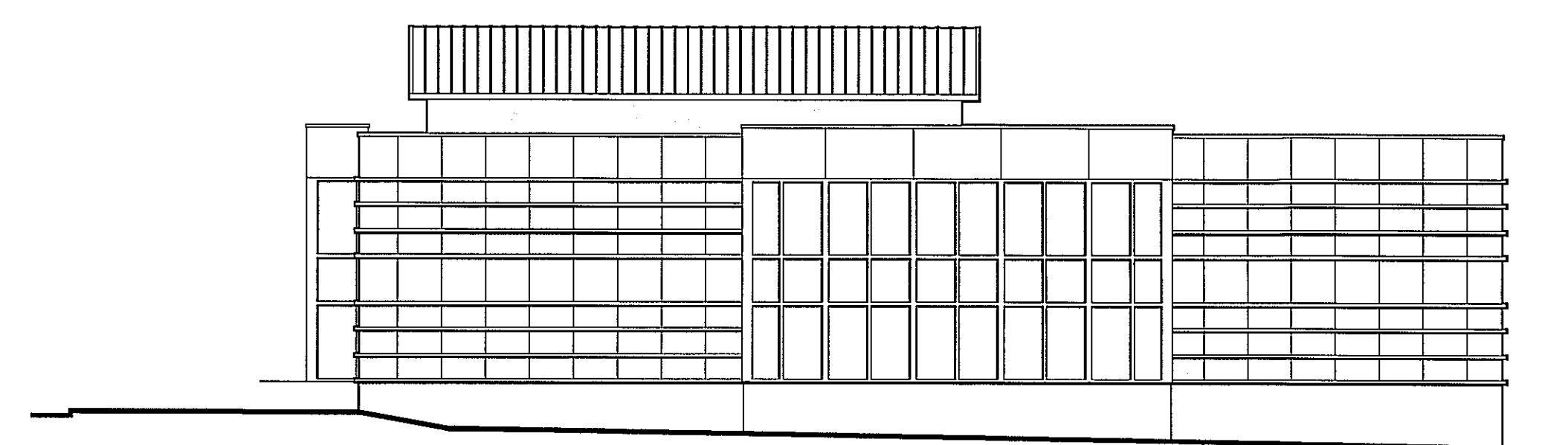
REAR ELEVATION

SCALE: 1/16"=1'-0"



RIGHT ELEVATION

SCALE: 1/16"=1'-0"



LEFT ELEVATION

SCALE: 1/16"=1'-0"

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FAIRFAX, VA

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